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Cys Gly Gln Cys Gln Cys Thr Glu Pro Gly Ala Phe Gly Glu Met Cys
610 615 620

Glu Lys Cys Pro Thr Cys Pro Asp Ala Cys Ser Thr Lys Arg Asp Cys
625 630 635 640

Val Glu Cys Leu Leu Leu His Ser Gly Lys Pro Asp Asn Gln Thr Cys
645 650 655

His Ser Leu Cys Arg Asp Glu Val Ile Thr Trp Val Asp Thr Ile Val
660 665 670

Lys Asp Asp Gln Glu Ala Val Leu Cys Phe Tyr Lys Thr Ala Lys Asp
675 680 685

Cys Val Met Met Phe Thr Tyr Val Glu Leu Pro Ser Gly Lys Ser Asn
690 695 700

Leu Thr Val Leu Arg Glu Pro Glu Cys Gly Asn Thr Pro Asn Ala Met
705 710 715 720

Thr Ile Leu Leu Ala Val Val Gly Ser Ile Leu Leu Val Gly Leu Ala
725 730 735

Leu Leu Ala Ile Trp Lys Leu Leu Val Thr Ile His Asp Arg Arg Glu
740 745 750

Phe Ala Lys Phe Gln Ser Glu Arg Ser Arg Ala Arg Tyr Glu Met Ala
755 760 765

Ser Asn Pro Leu Tyr Arg Lys Pro Ile Ser Thr His Thr Val Asp Phe
770 775 780

Thr Phe Asn Lys Phe Asn Lys Ser Tyr Asn Gly Thr Val Asp
785 790 795

<210> 9
<211> 315
<212> PRT
<213> Homo sapiens

<400> 9
Met Ala Asn Cys Ser Leu Tyr Arg Ser Cys Gly Asp Cys Leu Leu Ala
1 5 10 15

Arg Asp Pro Tyr Cys Ala Trp Ser Gly Ser Ser Cys Lys His Val Ser
20 25 30

Leu Tyr Gln Pro Gln Leu Ala Thr Arg Pro Trp Ile Gln Asp Ile Glu
35 40 45

Gly Ala Ser Ala Lys Asp Leu Cys Ser Ala Ser Ser Val Val Ser Pro
50 55 60

Ser Phe Val Pro Thr Gly Glu Lys Pro Cys Glu Gln Val Gln Phe Gln
65 70 75 80

Pro Asn Thr Val Asn Thr Leu Ala Cys Pro Leu Leu Ser Asn Leu Ala
85 90 95

Thr Arg Leu Trp Leu Arg Asn Gly Ala Pro Val Asn Ala Ser Ala Ser
100 105 110

Cys His Val Leu Pro Thr Gly Asp Leu Leu Leu Val Gly Thr Gln Gln
115 120 125

Leu Gly Glu Phe Gln Cys Trp Ser Leu Glu Glu Gly Phe Gln Gln Leu
130 135 140

Val Ala Ser Tyr Cys Pro Glu Val Val Glu Asp Gly Val Ala Asp Gln
145 150 155 160

Thr Asp Glu Gly Gly Ser Val Pro Val Ile Ile Ser Thr Ser Arg Val
165 170 175

Ser Ala Pro Ala Gly Gly Lys Ala Ser Trp Gly Ala Asp Arg Ser Tyr
180 185 190

Trp Lys Glu Phe Leu Val Met Cys Thr Leu Phe Val Leu Ala Val Leu
195 200 205

Leu Pro Val Leu Phe Leu Leu Tyr Arg His Arg Asn Ser Met Lys Val

210 215 220

Phe Leu Lys Gln Gly Glu Cys Ala Ser Val His Pro Lys Thr Cys Pro
225 230 235 240

Val Val Leu Pro Pro Glu Thr Arg Pro Leu Asn Gly Leu Gly Pro Pro
245 250 255

Ser Thr Pro Leu Asp His Arg Gly Tyr Gln Ser Leu Ser Asp Ser Pro
260 265 270

Pro Gly Ser Arg Val Phe Thr Glu Ser Glu Lys Arg Pro Leu Ser Ile
275 280 285

Gln Asp Ser Phe Val Glu Val Ser Pro Val Cys Pro Arg Pro Arg Val
290 295 300

Arg Leu Gly Ser Glu Ile Arg Asp Ser Val Val
305 310 315

<210> 10
<211> 375
<212> PRT
<213> Homo sapiens

<400> 10
Met Glu Phe Glu Ile Thr Phe Arg Pro Asp Ser Gly Asp Gly Val Leu
1 5 10 15

Leu Tyr Ser Tyr Asp Thr Gly Ser Lys Asp Phe Leu Ser Ile Asn Leu
20 25 30

Ala Gly Gly His Val Glu Phe Arg Phe Asp Cys Gly Ser Gly Thr Gly
35 40 45

Val Leu Arg Ser Glu Asp Pro Leu Thr Leu Gly Asn Trp His Glu Leu
50 55 60

Arg Val Ser Arg Thr Ala Lys Asn Gly Ile Leu Gln Val Asp Lys Gln
65 70 75 80

Lys Ile Val Glu Gly Met Ala Glu Gly Gly Phe Thr Gln Ile Lys Cys
85 90 95

Asn Thr Asp Ile Phe Ile Gly Gly Val Pro Asn Tyr Asp Asp Val Lys
100 105 110

Lys Asn Ser Gly Val Leu Lys Pro Phe Ser Gly Ser Ile Gln Lys Ile
115 120 125

Ile Leu Asn Asp Arg Thr Ile His Val Lys His Asp Phe Thr Ser Gly
130 135 140

Val Asn Val Glu Asn Ala Ala His Pro Cys Val Arg Ala Pro Cys Ala
145 150 155 160

His Gly Gly Ser Cys Arg Pro Arg Lys Glu Gly Tyr Asp Cys Asp Cys
165 170 175

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Pro Leu Gly Phe Glu Gly Leu His Cys Gln Lys Ala Ile Ile Glu Ala
            180                 185                 190

Ile Glu Ile Pro Gln Phe Ile Gly Arg Ser Tyr Leu Thr Tyr Asp Asn
        195                 200                 205

Pro Asp Ile Leu Lys Arg Val Ser Gly Ser Arg Ser Asn Val Phe Met
    210                 215                 220

Arg Phe Lys Thr Thr Ala Lys Asp Gly Leu Leu Leu Trp Arg Gly Asp
225                 230                 235                 240

Ser Pro Met Arg Pro Asn Ser Asp Phe Ile Ser Leu Gly Leu Arg Asp
                245                 250                 255

Gly Ala Leu Val Phe Ser Tyr Asn Leu Gly Ser Gly Val Ala Ser Ile
            260                 265                 270

Met Val Asn Gly Ser Phe Asn Asp Gly Arg Trp His Arg Val Lys Ala
        275                 280                 285

Val Arg Asp Gly Gln Ser Gly Lys Ile Thr Val Asp Asp Tyr Gly Ala
    290                 295                 300

Arg Thr Gly Lys Ser Pro Gly Met Met Arg Gln Leu Asn Ile Asn Gly
305                 310                 315                 320

Ala Leu Tyr Val Gly Gly Met Lys Glu Ile Ala Leu His Thr Asn Arg
                325                 330                 335

Gln Tyr Met Arg Gly Leu Val Gly Cys Ile Ser His Phe Thr Leu Ser
            340                 345                 350

Thr Asp Tyr His Ile Ser Leu Val Glu Asp Ala Val Asp Gly Lys Asn
        355                 360                 365

Ile Asn Thr Cys Gly Ala Lys
    370                 375
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<210> 11
<211> 211
<212> PRT
<213> Homo sapiens

<400> 11

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Gln Ile Ser Ala Ala Asp Leu Asp Ser Pro Ala Ser Pro Ile Arg Tyr
  1               5                  10                  15

Ser Ile Leu Pro His Ser Asp Pro Glu Arg Cys Phe Ser Ile Gln Pro
             20                  25                  30

Glu Glu Gly Thr Ile His Thr Ala Ala Pro Leu Asp Arg Glu Ala Arg
         35                  40                  45

Ala Trp His Asn Leu Thr Val Leu Ala Thr Glu Leu Asp Ser Ser Ala
     50                  55                  60

Gln Ala Ser Arg Val Gln Val Ala Ile Gln Thr Leu Asp Lys Asn Asp
 65                  70                  75                  80
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Asn Ala Pro Gln Leu Ala Glu Pro Tyr Asp Thr Phe Val Cys Asp Ser
85 90 95

Ala Ala Pro Gly Gln Leu Ile Gln Val Ile Arg Ala Leu Asp Arg Asp
100 105 110

Glu Val Gly Asn Ser Ser His Val Ser Phe Gln Gly Pro Leu Gly Pro
115 120 125

Asp Ala Asn Phe Thr Val Gln Asp Asn Arg Asp Gly Ser Ala Ser Leu
130 135 140

Leu Leu Pro Ser Arg Pro Ala Pro Pro Arg His Ala Pro Tyr Leu Val
145 150 155 160

Pro Ile Glu Leu Trp Asp Trp Gly Gln Pro Ala Leu Ser Ser Thr Ala
165 170 175

Thr Val Thr Val Ser Val Cys Arg Cys Gln Pro Asp Gly Ser Val Ala
180 185 190

Ser Cys Leu Pro Trp Trp Cys Ser Ser Trp Pro Cys Gly Gly Arg Ser
195 200 205

Lys Lys His
210

<210> 12
<211> 439
<212> PRT
<213> Homo sapiens

<400> 12
Gly Asp Arg Arg Pro Leu Pro Val Asp Arg Ala Ala Gly Leu Lys Glu
1 5 10 15

Lys Thr Leu Ile Leu Leu Asp Val Ser Thr Lys Asn Pro Val Arg Thr
20 25 30

Val Asn Glu Asn Phe Leu Ser Leu Gln Leu Asp Pro Ser Ile Ile His
35 40 45

Asp Gly Trp Leu Asp Phe Leu Ser Ser Lys Arg Leu Val Thr Leu Ala
50 55 60

Arg Gly Leu Ser Pro Ala Phe Leu Arg Phe Gly Gly Lys Arg Thr Asp
65 70 75 80

Phe Leu Gln Phe Gln Asn Leu Arg Asn Pro Ala Lys Ser Arg Gly Gly
85 90 95

Pro Gly Pro Asp Tyr Tyr Leu Lys Asn Tyr Glu Asp Glu Pro Asn Asn
100 105 110

Tyr Arg Thr Met His Gly Arg Ala Val Asn Gly Ser Gln Leu Gly Lys
115 120 125

Asp Tyr Ile Gln Leu Lys Ser Leu Leu Gln Pro Ile Arg Ile Tyr Ser

130 135 140

Arg Ala Ser Leu Tyr Gly Pro Asn Ile Gly Arg Pro Arg Lys Asn Val
145 150 155 160

Ile Ala Leu Leu Asp Gly Phe Met Lys Val Ala Gly Ser Thr Val Asp
165 170 175

Ala Val Thr Trp Gln His Cys Tyr Ile Asp Gly Arg Val Val Lys Val
180 185 190

Met Asp Phe Leu Lys Thr Arg Leu Leu Asp Thr Leu Ser Asp Gln Ile
195 200 205

Arg Lys Ile Gln Lys Val Val Asn Thr Tyr Thr Pro Gly Lys Lys Ile
210 215 220

Trp Leu Glu Gly Val Val Thr Thr Ser Ala Gly Gly Thr Asn Asn Leu
225 230 235 240

Ser Asp Ser Tyr Ala Ala Gly Phe Leu Trp Leu Asn Thr Leu Gly Met
245 250 255

Leu Ala Asn Gln Gly Ile Asp Val Val Ile Arg His Ser Phe Phe Asp
260 265 270

His Gly Tyr Asn His Leu Val Asp Gln Asn Phe Asn Pro Leu Pro Asp
275 280 285

Tyr Trp Leu Ser Leu Leu Tyr Lys Arg Leu Ile Gly Pro Lys Val Leu
290 295 300

Ala Val His Val Ala Gly Leu Gln Arg Lys Pro Arg Pro Gly Arg Val
305 310 315 320

Ile Arg Asp Lys Leu Arg Ile Tyr Ala His Cys Thr Asn His His Asn
325 330 335

His Asn Tyr Val Arg Gly Ser Ile Thr Leu Phe Ile Ile Asn Leu His
340 345 350

Arg Ser Arg Lys Lys Ile Lys Leu Ala Gly Thr Leu Arg Asp Lys Leu
355 360 365

Val His Gln Tyr Leu Leu Gln Pro Tyr Gly Gln Glu Gly Leu Lys Ser
370 375 380

Lys Ser Val Gln Leu Asn Gly Gln Pro Leu Val Met Val Asp Asp Gly
385 390 395 400

Thr Leu Pro Glu Leu Lys Pro Arg Pro Leu Arg Ala Gly Arg Thr Leu
405 410 415

Val Ile Pro Pro Val Thr Met Gly Phe Phe Val Val Lys Asn Val Asn
420 425 430

Ala Leu Ala Cys Arg Tyr Arg
435

<210> 13
<211> 592
<212> PRT
<213> Homo sapiens

<400> 13
Met Arg Val Leu Cys Ala Phe Pro Glu Ala Met Pro Ser Ser Asn Ser
1 5 10 15

Arg Pro Pro Ala Cys Leu Ala Pro Gly Ala Leu Tyr Leu Ala Leu Leu
20 25 30

Leu His Leu Ser Leu Ser Ser Gln Ala Gly Asp Arg Arg Pro Leu Pro
35 40 45

Val Asp Arg Ala Ala Gly Leu Lys Glu Lys Thr Leu Ile Leu Leu Asp
50 55 60

Val Ser Thr Lys Asn Pro Val Arg Thr Val Asn Glu Asn Phe Leu Ser
65 70 75 80

Leu Gln Leu Asp Pro Ser Ile Ile His Asp Gly Trp Leu Asp Phe Leu
85 90 95

Ser Ser Lys Arg Leu Val Thr Leu Ala Arg Gly Leu Ser Pro Ala Phe
100 105 110

Leu Arg Phe Gly Gly Lys Arg Thr Asp Phe Leu Gln Phe Gln Asn Leu
115 120 125

Arg Asn Pro Ala Lys Ser Arg Gly Gly Pro Gly Pro Asp Tyr Tyr Leu
130 135 140

Lys Asn Tyr Glu Asp Asp Ile Val Arg Ser Asp Val Ala Leu Asp Lys
145 150 155 160

Gln Lys Gly Cys Lys Ile Ala Gln His Pro Asp Val Met Leu Glu Leu
165 170 175

Gln Arg Glu Lys Ala Ala Gln Met His Leu Val Leu Leu Lys Glu Gln
180 185 190

Phe Ser Asn Thr Tyr Ser Asn Leu Ile Leu Thr Ala Arg Ser Leu Asp
195 200 205

Lys Leu Tyr Asn Phe Ala Asp Cys Ser Gly Leu His Leu Ile Phe Ala
210 215 220

Leu Asn Ala Leu Arg Arg Asn Pro Asn Asn Ser Trp Asn Ser Ser Ser
225 230 235 240

Ala Leu Ser Leu Leu Lys Tyr Ser Ala Ser Lys Lys Tyr Asn Ile Ser
245 250 255

Trp Glu Leu Gly Asn Glu Pro Asn Asn Tyr Arg Thr Met His Gly Arg
260 265 270

Ala Val Asn Gly Ser Gln Leu Gly Lys Asp Tyr Ile Gln Leu Lys Ser
275 280 285

Leu Leu Gln Pro Ile Arg Ile Tyr Ser Arg Ala Ser Leu Tyr Gly Pro
290 295 300

Asn Ile Gly Arg Pro Arg Lys Asn Val Ile Ala Leu Leu Asp Gly Phe
305 310 315 320

Met Lys Val Ala Gly Ser Thr Val Asp Ala Val Thr Trp Gln His Cys
325 330 335

Tyr Ile Asp Gly Arg Val Val Lys Val Met Asp Phe Leu Lys Thr Arg
340 345 350

Leu Leu Asp Thr Leu Ser Asp Gln Ile Arg Lys Ile Gln Lys Val Val
355 360 365

Asn Thr Tyr Thr Pro Gly Lys Lys Ile Trp Leu Glu Gly Val Val Thr
370 375 380

Thr Ser Ala Gly Gly Thr Asn Asn Leu Ser Asp Ser Tyr Ala Ala Gly
385 390 395 400

Phe Leu Trp Leu Asn Thr Leu Gly Met Leu Ala Asn Gln Gly Ile Asp
405 410 415

Val Val Ile Arg His Ser Phe Phe Asp His Gly Tyr Asn His Leu Val
420 425 430

Asp Gln Asn Phe Asn Pro Leu Pro Asp Tyr Trp Leu Ser Leu Leu Tyr
435 440 445

Lys Arg Leu Ile Gly Pro Lys Val Leu Ala Val His Val Ala Gly Leu
450 455 460

Gln Arg Lys Pro Arg Pro Gly Arg Val Ile Arg Asp Lys Leu Arg Ile
465 470 475 480

Tyr Ala His Cys Thr Asn His His Asn His Asn Tyr Val Arg Gly Ser
485 490 495

Ile Thr Leu Phe Ile Ile Asn Leu His Arg Ser Arg Lys Lys Ile Lys
500 505 510

Leu Ala Gly Thr Leu Arg Asp Lys Leu Val His Gln Tyr Leu Leu Gln
515 520 525

Pro Tyr Gly Gln Glu Gly Leu Lys Ser Lys Ser Val Gln Leu Asn Gly
530 535 540

Gln Pro Leu Val Met Val Asp Asp Gly Thr Leu Pro Glu Leu Lys Pro
545 550 555 560

Arg Pro Leu Arg Ala Gly Arg Thr Leu Val Ile Pro Pro Val Thr Met
565 570 575

Gly Phe Phe Val Val Lys Asn Val Asn Ala Leu Ala Cys Arg Tyr Arg
580 585 590

<210> 14
<211> 112
<212> PRT
<213> Homo sapiens

<400> 14
Asp Ile Val Arg Ser Asp Val Ala Leu Asp Lys Gln Lys Gly Cys Lys
1 5 10 15

Ile Ala Gln His Pro Asp Val Met Leu Glu Leu Gln Arg Glu Lys Ala
20 25 30

Ala Gln Met His Leu Val Leu Leu Lys Glu Gln Phe Ser Asn Thr Tyr
35 40 45

Ser Asn Leu Ile Leu Thr Ala Arg Ser Leu Asp Lys Leu Tyr Asn Phe
50 55 60

Ala Asp Cys Ser Gly Leu His Leu Ile Phe Ala Leu Asn Ala Leu Arg
65 70 75 80

Arg Asn Pro Asn Asn Ser Trp Asn Ser Ser Ser Ala Leu Ser Leu Leu
85 90 95

Lys Tyr Ser Ala Ser Lys Lys Tyr Asn Ile Ser Trp Glu Leu Gly Asn
100 105 110

<210> 15
<211> 1779
<212> DNA
<213> Homo sapiens

<400> 15
ATGAGGGTGC TTTGTGCCTT CCCTGAAGCC ATGCCCTCCA GCAACTCCCG CCCCCCCGCG 60

TGCCTAGCCC CGGGGGCTCT CTACTTGGCT CTGTTGCTCC ATCTCTCCCT TTCCTCCCAG 120

GCTGGAGACA GGAGACCCTT GCCTGTAGAC AGAGCTGCAG GTTTGAAGGA AAAGACCCTG 180

ATTCTACTTG ATGTGAGCAC CAAGAACCCA GTCAGGACAG TCAATGAGAA CTTCCTCTCT 240

CTGCAGCTGG ATCCGTCCAT CATTCATGAT GGCTGGCTCG ATTTCCTAAG CTCCAAGCGC 300

TTGGTGACCC TGGCCCGGGG ACTTTCGCCC GCCTTTCTGC GCTTCGGGGG CAAAAGGACC 360

GACTTCCTGC AGTTCCAGAA CCTGAGGAAC CCGGCGAAAA GCCGCGGGGG CCCGGGCCCG 420

GATTACTATC TCAAAAACTA TGAGGATGAC ATTGTTCGAA GTGATGTTGC CTTAGATAAA 480

CAGAAAGGCT GCAAGATTGC CCAGCACCCT GATGTTATGC TGGAGCTCCA AAGGGAGAAG 540

GCAGCTCAGA TGCATCTGGT TCTTCTAAAG GAGCAATTCT CCAATACTTA CAGTAATCTC 600

ATATTAACAG CCAGGTCTCT AGACAAACTT TATAACTTTG CTGATTGCTC TGGACTCCAC 660

CTGATATTTG CTCTAAATGC ACTGCGTCGT AATCCCAATA ACTCCTGGAA CAGTTCTAGT 720

GCCCTGAGTC TGTTGAAGTA CAGCGCCAGC AAAAAGTACA ACATTTCTTG GGAACTGGGT 780

AATGAGCCAA ATAACTATCG GACCATGCAT GGCCGGGCAG TAAATGGCAG CCAGTTGGGA 840

AAGGATTACA TCCAGCTGAA GAGCCTGTTG CAGCCCATCC GGATTTATTC CAGAGCCAGC 900

TTATATGGCC CTAATATTGG GCGGCCGAGG AAGAATGTCA TCGCCCTCCT AGATGGATTC 960

ATGAAGGTGG CAGGAAGTAC AGTAGATGCA GTTACCTGGC AACATTGCTA CATTGATGGC 1020

CGGGTGGTCA AGGTGATGGA CTTCCTGAAA ACTCGCCTGT TAGACACACT CTCTGACCAG 1080

ATTAGGAAAA TTCAGAAAGT GGTTAATACA TACACTCCAG GAAAGAAGAT TTGGCTTGAA 1140

GGTGTGGTGA CCACCTCAGC TGGAGGCACA AACAATCTAT CCGATTCCTA TGCTGCAGGA 1200

TTCTTATGGT TGAACACTTT AGGAATGCTG GCCAATCAGG GCATTGATGT CGTGATACGG 1260

CACTCATTTT TTGACCATGG ATACAATCAC CTCGTGGACC AGAATTTTAA CCCATTACCA 1320

GACTACTGGC TCTCTCTCCT CTACAAGCGC CTGATCGGCC CCAAAGTCTT GGCTGTGCAT 1380

GTGGCTGGGC TCCAGCGGAA GCCACGGCCT GGCCGAGTGA TCCGGGACAA ACTAAGGATT 1440

TATGCTCACT GCACAAACCA CCACAACCAC AACTACGTTC GTGGGTCCAT TACACTTTTT 1500

ATCATCAACT TGCATCGATC AAGAAAGAAA ATCAAGCTGG CTGGGACTCT CAGAGACAAG 1560

CTGGTTCACC AGTACCTGCT GCAGCCCTAT GGGCAGGAGG GCCTAAAGTC CAAGTCAGTG 1620

CAACTGAATG GCCAGCCCTT AGTGATGGTG GACGACGGGA CCCTCCCAGA ATTGAAGCCC 1680

CGCCCCCTTC GGGCCGGCCG GACATTGGTC ATCCCTCCAG TCACCATGGG CTTTTTTGTG 1740

GTCAAGAATG TCAATGCTTT GGCCTGCCGC TACCGATAA 1779

<210> 16
<211> 336
<212> DNA
<213> Homo sapiens

<400> 16
GACATTGTTC GAAGTGATGT TGCCTTAGAT AAACAGAAAG GCTGCAAGAT TGCCCAGCAC 60

CCTGATGTTA TGCTGGAGCT CCAAAGGGAG AAGGCAGCTC AGATGCATCT GGTTCTTCTA 120

AAGGAGCAAT TCTCCAATAC TTACAGTAAT CTCATATTAA CAGCCAGGTC TCTAGACAAA 180

CTTTATAACT TTGCTGATTG CTCTGGACTC CACCTGATAT TTGCTCTAAA TGCACTGCGT 240

CGTAATCCCA ATAACTCCTG GAACAGTTCT AGTGCCCTGA GTCTGTTGAA GTACAGCGCC 300

AGCAAAAAGT ACAACATTTC TTGGGAACTG GGTAAT 336